UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/964,221	09/26/2001	Edward V. Thomas	SD6750/95599	1857

20567   7590   03/17/2006

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EXAMINER
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ART UNIT	PAPER NUMBER
2136	

DATE MAILED: 03/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/964,221	THOMAS ET AL.
	Examiner	Art Unit	
	David G. Cervetti	2136	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 December 2005*.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-41* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-41* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *26 September 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *12/12/05*.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____ .

DETAILED ACTION

1.   Applicant's arguments filed December 12, 2005, have been fully considered but they are not persuasive.

2.   Claims 1-41 are pending and have been examined.

Response to Amendment

3.   The objection to the specification is withdrawn.

4.   The objection regarding the incorporation by reference is withdrawn.

5.   Regarding the rejection under 35 USC 112 second paragraph of claims 2 and 32, Examiner submits that neither the specification not the claim provide an explanation of the data being **substantially** indistinguishable from Gaussian white noise **to whom**. People and/or computer systems may be more/less susceptible to distinguish characteristics of given data, therefore, the term substantially renders the term **"indistinguishable from Gaussian white noise"** indefinite. The specification does not provide a standard for measuring that degree. Furthermore, pages 18-20 of the specification do not provide a standard for measuring the degree, it states that "almost all are indistinguishable from Gaussian white noise" (page 18), "the output is likely to resemble Gaussian white noise" (page 20).

6.   Page 13 of the Remarks states "particularly as to amended claim 41". Claim 41's status is set to "original" and Examiner has treated it as such, and interpreted the sentence to be due to a mistake.

7.   The following Prior Art is used in the rejections appearing in this Office Action: **Bianco** et al. (US Patent Number: 6,256,737, hereinafter "Bianco"), **Meister** et al. (US

Patent Number: 6,798,334, hereinafter "Meister"), **Wyner** (US Patent Number:

4,379,205), **Meyer** et al. (US Patent Number: 6,748,362, hereinafter "Meyer"),

MacAleese et al. (US Patent Number: 6,359,582, hereinafter "MacAleese"), and

Rahtgen (US Patent Number: 4,882,779) are used in this Office Action.

8.   Bianco teaches processing the measurements through a unique algorithm to

generate a unique template to store the biometric data (columns 7-9).

9.   Regarding the argument that "one looking to design a system which obtains and

subsequently compares measurements of human features in accordance with standard

biometric practices would not look to the specification of a patent which is related to

embedding data in audio, image video, and other media files", Examiner respectfully

disagrees, since most biometric systems utilize some kind of a media file, i.e. an image

of a user (face recognition, fingerprint, voice recognition, etc).

10.   In response to applicant's argument that the examiner has combined an

excessive number of references, reliance on a large number of references in a rejection

does not, without more, weigh against the obviousness of the claimed invention. See *In*

re Gorman, 933 F.2d 982, 18 USPQ2d 1885 (Fed. Cir. 1991).

Information Disclosure Statement

11.   The information disclosure statement filed December 12, 2005 fails to comply

with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent

document; each non-patent literature publication or that portion which caused it to be

listed; and all other information or that portion which caused it to be listed. It has been

placed in the application file, but the information referred to therein has not been

considered. A copy of the HEDAYAT et al. and a copy of the LEHMANN references
were not provided.

Claim Rejections - 35 USC § 112

12.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

13.   Claims 2 and 32 are rejected under 35 U.S.C. 112, second paragraph, as being
indefinite for failing to particularly point out and distinctly claim the subject matter which
applicant regards as the invention.

14.   The term "substantially" in claims 2 and 32 is a relative term which renders the
claim indefinite. The term "substantially" is not defined by the claim, the specification
does not provide a standard for ascertaining the requisite degree, and one of ordinary
skill in the art would not be reasonably apprised of the scope of the invention. The
concealed data is **substantially** indistinguishable.

Claim Rejections - 35 USC § 103

15.   The text of those sections of Title 35, U.S. Code not included in this action can
be found in a prior Office action.

**16.   Claims 1-10, 13-20, and 22 are rejected under 35 U.S.C. 103(a) as being
unpatentable over Bianco, and further in view of Meister.**

        Regarding claim 1, Bianco teaches a method of authenticating concealed and
statistically varying multi-dimensional data, the method comprising the steps of:
acquiring an initial measurement of an item, wherein the initial measurement is subject
to measurement error (column 9, lines 1-67, column 10, lines 1-67, column 17, lines 36-

67); applying a transformation to the initial measurement to generate encrypted

reference data (column 7, lines 1-67, column 8, lines 1-67, column 50, lines 1-67);

acquiring a subsequent measurement of an item, wherein the subsequent measurement

is subject to measurement error (column 9, lines 1-67, column 23, lines 1-67, column

24, lines 1-56); applying the transformation to the subsequent measurement such that it

is encrypted (column 7, lines 1-67, column 8, lines 1-67, column 17, lines 36-67, column

24, lines 1-56, column 50, lines 1-67). Bianco does not expressly disclose calculating a

Euclidean distance metric between the encrypted measurements; wherein the

calculated Euclidean distance metric is identical to a Euclidean distance metric between

the measurements prior to transformation. However, Meister teaches using Euclidean

distance for verification of biometric data (column 7, lines 35-67). Therefore, it would

have been obvious to one having ordinary skill in the art at the time the invention was

made to use Euclidean distance measurements to verify authenticity of an obtained

biometric data against a stored, already measured, biometric data. One of ordinary skill

in the art would have been motivated to do so because a comparison of biometric data

detected with stored reference values provides a way of authenticating/verifying a

biometric characteristic (Meister, column 1, lines 10-35).

Regarding claim 2, the combination of Bianco and Meister does not expressly

disclose wherein the steps of applying the transformation generate encrypted data that

is substantially indistinguishable from Gaussian white noise. However, Examiner takes

Official Notice that generating a type of data camouflaged as another type of data was

conventional and well known since it conceals information that may potentially help someone who should not access obtain access to it.

Regarding claim 3, the combination of Bianco and Meister teaches the limitations as set forth under claim 1 above. Furthermore, Meister teaches wherein the steps of applying the transformation comprise normalizing the measurements (column 7, lines 35-67).

Regarding claim 4, the combination of Bianco and Meister teaches the limitations as set forth under claim 3 above. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use other conventional statistical techniques such as centering, normalizing, and scale transforming. One of ordinary skill in the art would have been motivated to do so because it was well known in the art to use statistical techniques (Meister, column 7, lines 35-67).

Regarding claim 5, the combination of Bianco and Meister does not expressly teach permuting the measurements. However, Examiner takes Official Notice that the use of permutation as a transformation was conventional and well known (i.e. the Data Encryption Standard performs an initial permutation, a transformation, and a final permutation in order to "conceal" data). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use permutation of the measurements since Examiner takes Official Notice that it was conventional and well known.

Regarding claim 6, the combination of Bianco and Meister teaches the limitations as set forth under claim 5 above. Furthermore, Bianco teaches employing an item of secret information (column 56, lines 28-67).

Regarding claim 7, the combination of Bianco and Meister teaches the limitations as set forth under claim 6 above. Furthermore, Bianco teaches wherein permuting comprises employing a passcode (column 56, lines 28-67).

Regarding claim 8, the combination of Bianco and Meister does not expressly teach using a hash function. However, Examiner takes Official Notice that the use of hash functions was conventional and well known. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the result of a hash function of the passcode since Examiner takes Official Notice that it was conventional and well known.

Regarding claim 9, the combination of Bianco and Meister teaches the limitations as set forth under claim 1 above. Furthermore, Meister teaches wherein the steps of applying the transformation comprise employing a linear transformation (column 7, lines 40-67).

Regarding claim 10, the combination of Bianco and Meister teaches the limitations as set forth under claim 9 above. Furthermore, Meister teaches wherein employing a linear transformation comprises employing a transformation matrix with orthonormal columns (column 7, lines 40-67).

Regarding claim 13, the combination of Bianco and Meister does not expressly teach wherein the employing a linear transformation comprises permuting the linearly

transformed data. However, Examiner takes Official Notice that the use of permutation as a transformation was conventional and well known (i.e. the Data Encryption Standard performs an initial permutation, a transformation, and a final permutation in order to "conceal" data). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use permutation of the measurements since Examiner takes Official Notice that it was conventional and well known.

Regarding claim 14, the combination of Bianco and Meister teaches the limitations as set forth under claim 13 above. Furthermore, Bianco teaches employing an item of secret information (column 56, lines 28-67).

Regarding claim 15, the combination of Bianco and Meister teaches the limitations as set forth under claim 14 above. Furthermore, Bianco teaches wherein permuting the linearly transformed data comprises employing a passcode (column 56, lines 28-67).

Regarding claim 16, the combination of Bianco and Meister does not expressly teach using a hash function. However, Examiner takes Official Notice that the use of hash functions was conventional and well known. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the result of a hash function of the passcode since Examiner takes Official Notice that it was conventional and well known.

Regarding claim 17, the combination of Bianco and Meister teaches the limitations as set forth under claim 1 above. Furthermore, Bianco teaches wherein the measurements comprise biometric data (column 26, lines 48-67, column 27, lines 1-67).

Regarding claim 18, the combination of Bianco and Meister teaches the limitations as set forth under claim 17 above. Furthermore, Bianco teaches wherein the measurements comprise measurements selected from the group consisting of fingerprints, retinal scans, facial scans, hand geometry, spectral data, and voice data (abstract, column 8, lines 1-67, column 9, lines 1-10).

Regarding claim 19, the combination of Bianco and Meister teaches the limitations as set forth under claim 17 above. Furthermore, Bianco teaches storing the reference template data on a smart card to be carried by an individual from whom the biometric data was taken (column 30, lines 15-30).

Regarding claim 20, the combination of Bianco and Meister teaches the limitations as set forth under claim 1 above. Furthermore, Bianco teaches wherein the measurements comprise spectral data (abstract, column 8, lines 1-67, column 9, lines 1-10).

Regarding claim 22, the combination of Bianco and Meister does not expressly disclose adding pseudo-dimensions to the measurements to enhance concealment. However, Examiner takes Official Notice that adding noise to existing data for the purposes of concealing information was conventional and well known (i.e. watermarking, steganography). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to add pseudo-dimensions to the input data to enhance concealment since Examiner takes Official Notice that it was conventional and well known.

**17.   Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over
Bianco and Meister, and further in view of Wyner.**

Regarding claim 11, the combination of Bianco and Meister does not expressly
teach using a normalized Hadamard matrix. However, Wyner teaches using a
Hadamard matrix for transforming data. Therefore, it would have been obvious to one
having ordinary skill in the art at the time the invention was made to use a Hadamard
matrix. One of ordinary skill in the art would have been motivated to do so because it
was known to use matrices to transform/scramble data (Wyner, columns 2-3).

**18.   Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over
Bianco and Meister, and further in view of Meyer.**

Regarding claim 12, the combination of Bianco and Meister does not expressly
teach employing a normalized matrix comprising Fourier coefficients with a cosine / sine
basis. However, Meyer teaches employing a linear transformation comprising Fourier
coefficients with a cosine / sine basis (column 6, lines 27-42). Therefore, it would have
been obvious to one having ordinary skill in the art at the time the invention was made
to use a matrix comprising Fourier coefficients with a cosine / sine basis. One of
ordinary skill in the art would have been motivated to do so because it was known to
use matrices and Fourier coefficients to transform/scramble data (Meyer, column 2,
lines 20-40).

**19.   Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over
Bianco and Meister, and further in view of MacAleese.**

Regarding claim 21, the combination of Bianco and Meister does not expressly

disclose that the spectral data is weapons spectra. However, MacAleese teaches using

spectral data of weapons to detect weapons by comparing the spectral data to pre-

stored measurements (column 7, lines 45-67, column 8, lines 1-67). Therefore, it would

have been obvious to one having ordinary skill in the art at the time the invention was

made to use weapons spectral data as input for the system of Bianco. One of ordinary

skill in the art would have been motivated to do so because it was known to use spectral

data to verify/authenticate input data.

20.   Claims 23-32, 35-38, and 40 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Bianco, and further in view of Meister and Rahtgen.

Regarding claim 23, Bianco teaches a method of encrypting multidimensional

digital input data and maintaining an ability to authenticate the concealed data (column

17, lines 36-67). Meister teaches normalizing the input data (column 7, lines 35-67);

linearly transforming the normalized and permuted data with a transformation matrix

(column 7, lines 35-67). Rahtgen teaches permuting elements of the normalized data

(column 9, lines 25-45); permuting the linearly transformed data to create the concealed

data (column 9, lines 25-45); wherein the concealed data can be authenticated without

conversion back into the input data (column 1, lines 17-43). Therefore, it would have

been obvious to one having ordinary skill in the art at the time the invention was made

to normalize, permute, and use matrices in the system of Bianco. One of ordinary skill in

the art would have been motivated to do so because it was conventional and well

known to normalize, permute, and use matrices to create concealed data, and to authenticate encrypted data in an encrypted state, without decrypting the data.

Regarding claim 24, the combination of Bianco, Meister, and Rahtgen teaches the limitations as set forth under claim 23 above. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use other conventional statistical techniques such as centering, normalizing, and scale transforming. One of ordinary skill in the art would have been motivated to do so because it was well known in the art to use statistical techniques (Meister, column 7, lines 35-67).

Regarding claims 25 and 29, the combination of Bianco, Meister, and Rahtgen teaches the limitations as set forth under claim 23 above. Furthermore, Bianco teaches employing an item of secret information (column 56, lines 28-67).

Regarding claims 26, the combination of Bianco, Meister, and Rahtgen teaches the limitations as set forth under claim 23 above. Furthermore, Bianco teaches wherein permuting elements comprises employing a passcode (column 56, lines 28-67).

Regarding claim 27, the combination of Bianco, Meister, and Rahtgen does not expressly teach using a hash function. However, Examiner takes Official Notice that the use of hash functions was conventional and well known. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the result of a hash function of the passcode since Examiner takes Official Notice that it was conventional and well known.

Regarding claim 28, the combination of Bianco, Meister, and Rahtgen teaches the limitations as set forth under claim 23 above. Furthermore, Meister teaches wherein linearly transforming comprises employing a transformation matrix with orthonormal columns (column 7, lines 40-67).

Regarding claims 30, the combination of Bianco, Meister, and Rahtgen teaches the limitations as set forth under claim 29 above. Furthermore, Bianco teaches wherein permuting the linearly transformed data comprises employing a passcode (column 56, lines 28-67).

Regarding claim 31, the combination of Bianco, Meister, and Rahtgen does not expressly teach using a hash function. However, Examiner takes Official Notice that the use of hash functions was conventional and well known. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the result of a hash function of the passcode since Examiner takes Official Notice that it was conventional and well known.

Regarding claim 32, the combination of Bianco, Meister, and Rahtgen does not expressly disclose wherein the concealed data is substantially indistinguishable from Gaussian white noise. However, Examiner takes Official Notice that generating a type of data camouflaged as another type of data was conventional and well known since it conceals information that may potentially help someone who should not access obtain access to it.

Regarding claim 35, the combination of Bianco, Meister, and Rahtgen teaches

the limitations as set forth under claim 23 above. Furthermore, Bianco teaches wherein

the input data comprises biometric data (column 26, lines 48-67, column 27, lines 1-67).

Regarding claim 36, the combination of Bianco, Meister, and Rahtgen teaches

the limitations as set forth under claim 35 above. Furthermore, Bianco teaches wherein

the input data comprises data selected from the group consisting of fingerprints, retinal

scans, facial scans, hand geometry, spectral data, and voice data (abstract, column 8,

lines 1-67, column 9, lines 1-10).

Regarding claim 37, the combination of Bianco, Meister, and Rahtgen teaches

the limitations as set forth under claim 35 above. Furthermore, Bianco teaches

authenticating the transformed input data with reference template data stored on a

smart card to be carried by an individual from whom the biometric data was taken

(column 30, lines 15-30).

Regarding claim 38, the combination of Bianco, Meister, and Rahtgen teaches

the limitations as set forth under claim 23 above. Furthermore, Bianco teaches wherein

the input data comprises spectral data (abstract, column 8, lines 1-67, column 9, lines 1-

10).

Regarding claim 40, the combination of Bianco, Meister, and Rahtgen does not

expressly disclose adding pseudo-dimensions to the input data to enhance

concealment. However, Examiner takes Official Notice that adding noise to existing data

for the purposes of concealing information was conventional and well known (i.e.

watermarking, steganography). Therefore, it would have been obvious to one having

ordinary skill in the art at the time the invention was made to add pseudo-dimensions to the input data to enhance concealment since Examiner takes Official Notice that it was conventional and well known.

21.   Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bianco, Meister, and Rahtgen, and further in view of Wyner.

Regarding claim 33, the combination of Bianco, Meister, and Rahtgen does not expressly teach using a normalized Hadamard matrix. However, Wyner teaches using a Hadamard matrix for transforming data. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use a Hadamard matrix. One of ordinary skill in the art would have been motivated to do so because it was known to use matrices to transform/scramble data (Wyner, columns 2-3).

22.   Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bianco, Meister, and Rahtgen, and further in view of Meyer.

Regarding claim 34, the combination of Bianco, Meister, and Rahtgen does not expressly teach wherein in the linearly transforming step the transformation matrix comprises a normalized matrix comprising Fourier coefficients with a cosine / sine basis. However, Meyer teaches employing a linear transformation comprising Fourier coefficients with a cosine / sine basis (column 6, lines 27-42). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use a matrix comprising Fourier coefficients with a cosine / sine basis. One of ordinary skill in the art would have been motivated to do so because it was known to

use matrices and Fourier coefficients to transform/scramble data (Meyer, column 2,

lines 20-40).

23.   Claim 39 is rejected under 35 U.S.C. 103(a) as being unpatentable over

Bianco, Meister, and Rahtgen, and further in view of MacAleese.

Regarding claim 39, the combination of Bianco, Meister, and Rahtgen does not

expressly disclose that the spectral data is weapons spectra. However, MacAleese

teaches using spectral data of weapons to detect weapons by comparing the spectral

data to pre-stored measurements (column 7, lines 45-67, column 8, lines 1-67).

Therefore, it would have been obvious to one having ordinary skill in the art at the time

the invention was made to use weapons spectral data as input for the system of Bianco.

One of ordinary skill in the art would have been motivated to do so because it was

known to use spectral data to verify/authenticate input data.

24.   Claim 41 is rejected under 35 U.S.C. 103(a) as being unpatentable over

Bianco, and further in view of Rahtgen.

Regarding claim 41, Bianco teaches a method of concealing and authenticating

statistically varying multi-dimensional data (column 17, lines 36-67), the method

comprising the steps of: acquiring a measurement of an item, wherein the measurement

is subject to measurement error (column 17, lines 36-67, column 24, lines 1-56);

applying a transformation to the measurement to substantially conceal the

measurement (column 26, lines 48-67, column 27, lines 1-67). Bianco does not

expressly disclose authenticating the transformed measurement without removing

concealment of the transformed measurement and without employing an error-

correction algorithm. However, Rahtgen teaches authenticating the transformed

measurement without removing concealment of the transformed measurement and

without employing an error-correction algorithm (column 1, lines 17-43). Therefore, it

would have been obvious to one having ordinary skill in the art at the time the invention

was made to authenticate encrypted data in an encrypted state, without decrypting the

data. One of ordinary skill in the art would have been motivated to do so because it was

conventional and well known to authenticate encrypted data in an encrypted state,

without decrypting the data.

Conclusion

25.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure. US Patent Number 5,454,040 to Russell and US Patent Number

6,741,636 to Lender disclose arranging data to appear as white noise to render it

indistinguishable from white noise. US Patent Number 5,394,471 to Ganesan et al.

disclose using conventional statistical techniques relating to validating data.

26.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to David G. Cervetti whose telephone number is (571) 272-

5861. The examiner can normally be reached on Monday-Friday 7:00 am - 5:00 pm, off

on Wednesday.

27.   If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Ayaz R. Sheikh can be reached on (571) 272-3795. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

28.   Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

DGC

AYAZ SHEIKH
SUPERVISORY PATENT EXAMINER
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